**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:	Customer Number: 46320
	:	
Simon HOLDSWORTH, et al.	:	Confirmation Number: 7533
	:	
Application No.: 10/085,300	:	Group Art Unit: 2157
	:	
Filed: February 28, 2002	:	Examiner: E. Sall
	:	
For: METHOD AND SYSTEM FOR PRESERVING MESSAGE ORDER WHEN PARALLEL PROCESSING MESSAGES		

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed September 28, 2006, wherein Appellants appeal from the Examiner's rejection of claims 1-3, 5-12, and 14-20.

I. REAL PARTY IN INTEREST

This application is assigned to IBM Corporation by assignment recorded on February 28, 2002, at Reel 012662, Frame 0391.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals and interferences.

III. STATUS OF CLAIMS

Claims 1-3, 5-12, and 14-20 are pending and finally rejected in this Application. It is from the final rejection of claims 1-3, 5-12, and 14-20 that this Appeal is taken. Claims 4 and 13 have been cancelled.

IV. STATUS OF AMENDMENTS

The claims have not been amended subsequent to the imposition of the Third and Final Office Action dated June 28, 2006 (hereinafter the Third Office Action).

V. SUMMARY OF CLAIMED SUBJECT MATTER

Referring to Figures 1 and 2 and to independent claim 1, a method for preserving message order when parallel processing messages is disclosed. Messages (M1, M2, M3) are received that each include a marker H for identifying a message source (N1, N2, N3) (page 4, lines 4-10; page 7, line 29 through page 8, line 3 of Appellants' disclosure). Responsive to receipt of a message (M1, M2, M3), the marker H is used to identify the source (N1, N2, N3) of the message (M1, M2, M3) and determine whether the message order is required to be preserved (page 7, line 29 through page 8, line 9). Each message (M1, M2, M3) is dispatched in accordance with its marker H to one of a plurality of parallel processing threads (P1, P2, P3) such that processing order is preserved when required for messages (M1, M2, M3) processed through the plurality of parallel processing threads (P1, P2, P3) (page 8, lines 11-20; page 4, lines 12-16). A predetermined value of the marker H indicates that ordering is not required (page 8, lines 4-6).

Referring to Figures 1 and 2 and to independent claim 10, a system for preserving message order when parallel processing messages is disclosed. The system includes a means D for receiving messages (M1, M2, M3) (page 4, lines 12-13). The system includes a means D, responsive to a marker H within a received message (M1, M2, M3), for identifying a source (N1, N2, N3) of the message (M1, M2, M3) and determining whether the message order is required to be preserved (page 7, line 29 through page 8, line 9). A dispatcher D dispatches each message (M1, M2, M3) in accordance with its marker H to one of a plurality of parallel processing threads (P1, P2, P3) such that processing order is preserved when required for messages (M1, M2, M3) processed through the plurality of parallel processing threads (P1, P2, P3) (page 8, lines 11-20; page 4, lines 12-16). A predetermined value of the marker H indicates that ordering is not required (page 8, lines 4-6).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-3, 5-12, and 14-20 were rejected under 35 U.S.C. § 103 for obviousness based upon Scheussler et al., U.S. Patent No. 6,366,950 (hereinafter Scheussler), in view of Allavarpu et al., U.S. Patent No. 6,839,748 (hereinafter Allavarpu).

VII. ARGUMENT

THE REJECTION OF CLAIMS 1-3, 5-12, AND 14-20 UNDER 35 U.S.C. § 103 FOR OBVIOUSNESS BASED UPON SCHEUSSLER IN VIEW OF ALLAVARPU

For convenience of the Honorable Board in addressing the rejections, claims 2-3, 5-12, and 14-20 stand or fall together with independent claim 1.

Prior to discussing the prior art, a concise discussion of Appellants' claimed invention will help clarify the distinctions between the Examiner's combination of Scheussler and Allavarpu and the claimed invention. Appellants' invention is directed to a methodology and system for handling messages for which message order is to be preserved is some instances, yet for other instances, message order does not have to be preserved (see first full paragraph on page 7 of Appellants' disclosure). Furthermore, a determination as to whether or not message order is to be preserved is based upon a marker associated with the message (see paragraph spanning pages 7 and 8).

For ease of reference, Appellants will reproduce (i) Appellants' prior arguments regarding the present rejection, (ii) the Examiner's response to these prior arguments by Appellants, and (iii) Appellants reply to the Examiner's assertions.

I. Appellants' Prior Arguments

In the Amendment filed March 28, 2006 (hereinafter the Third Amendment), independent claims 1 and 10 were amended to recite that "a predetermined value of the marker indicates that ordering is not required." These limitations were previously presented in claims 4 and 13, now cancelled. Thus, claims 1 and 10 each recite that a determination is made as to whether or not message order is preserved based upon the marker associated with the message. Appellants' position is that this limitation is neither taught nor suggested by Scheussler and Allavarpu, either alone or in combination.

On page 3 of the Second Office Action dated October 5, 2005 (hereinafter the Second Office Action), the Examiner asserted that "Sche fails to teach explicitly determining whether it is required to preserve the message order." The Examiner then relied upon Allavarpu to teach "determining whether it is required to preserve the message order." As to dependent claims 4 and 13, now respectively incorporated into independent claims 1 and 10, the Examiner asserted the following on page 6 of the Second Office Action:

> As to claims 4 and 13, Sche teaches the method and the system of claims 1 and 10 wherein a predetermined value of the marker indicates that ordering is not required (column 2, lines 35-37, Sche discloses a client module generates a message including the identification number, and sends the message over the communication medium (i.e., there was no queuing or "ordering" to send the message, "order is not required" to send the message over the communication medium)).

Appellants respectfully disagree with the Examiner's analysis, which arrives at the conclusion that Scheussler teaches the limitations previously presented in claims 4 and 13.

As already <u>admitted</u> by the Examiner, Scheussler fails to teach "determining whether it is required to preserve the message order." Appellants' use of the term "determining," given the ordinary and customary meaning attributed to that term by one having ordinary skill in the art, is that a decision is made as to at least two options (i.e., message order is to be preserved or message order is not to be preserved). If only one option exists (i.e., message order is not to be preserved), a "determining" step is not necessary since the availability of a single choice precludes the need to make a choice. Therefore, the Examiner's assertions that (i) Scheussler fails to teach determining whether message order is to be preserved yet (ii) Scheussler teaches "a predetermined value of the marker indicates that ordering is not required" are <u>mutually exclusive</u> (i.e., both assertions cannot be correct). Thus, the Examiner cannot properly argue that both assertions regarding the teachings of Scheussler are correct.

Appellants respectfully submit that the Examiner's second assertion (i.e., Scheussler teaches the limitations previously presented in claims 4 and 13) is not correct. The Examiner cited column 2, lines 35-37 of Scheussler for support to teach these limitations, and for ease of reference this cited passage is reproduced below:

> The present invention provides a system and a method of identifying computer users. In one embodiment, a communications network includes several computers connected to a communications medium.

As readily apparent, the Examiner cannot properly derive a teaching of the claimed "predetermined value of the marker indicates that order is not required" from this passage.

Although the above-identified passage teaches that a message includes an identification number, there is no teaching or suggestion within Scheussler that this identification number is used to determine whether or not message order is to be preserved (i.e., "a predetermined value of the marker indicates that order is not required"). Even assuming that the Examiner's asserted "there was no queuing or 'ordering' to send the message" is correct, the Examiner has failed to establish (i) that a determination was made as to whether or not order is required and (ii) that determination is made based upon the value of a marker associated with the message.

Therefore, even if Scheussler and Allavarpu were combined in the manner suggested by the Examiner, the claimed invention would not result. As previously discussed, the claimed invention is directed to the concept of making a determination as to whether or not message order is to be preserved is based upon a marker associated with the message. Thus, messages may be dispatched for which some messages have their message order preserved and for other messages that are dispatched, the message order does not have to be preserved.

In contrast, neither Scheussler nor Allavarpu, alone or in combination, teach or suggest this concept. Although Allavarpu teaches that "each Proxy Agent instance may have a reply dispatcher, which may schedule replies to that particular client 206 in sequential order," there is no apparent teaching within Allavarpu that the reply dispatcher schedules certain replies in sequential order and schedules other replies so that sequential order is not necessarily maintained based upon a marker associated with the request issued by the client 206.

II(a). Examiner's Response

On page 9 of the Third Office Action, the Examiner stated the following:

> (A) Applicant argues that Initially, Applicants note that independent claims 1 and 10 have been amended to recite that a predetermined value of the marker indicates that ordering is not required. Thus, claims 1 and 10 each recite a determination of whether or not message order is preserved is based upon the marker associated with the message. This limitation is neither taught nor suggested by Scheussler and Allavarpu, either alone or in combination.
> In regards to point (B), examiner respectfully disagrees.
> Column 2, lines 35-37, Sche discloses a client module generates a message including the identification number, and sends the message over the communication medium (i.e. there was no queuing or "ordering" to send the message, "ordering is not required" to send the message over the communication medium).

II(a). Appellants' Reply

The Examiner's statement is no more than a word-for-word reproduction of the statement of the rejection found on page 3 of the Third Office Action regarding claims 1 and 10 and also found on page 6 of the Second Office Action regarding claims 4 and 13 (now incorporated into claims 1 and 10). Appellants have already responded to these assertions.

II(b). Examiner's Response

In the paragraph spanning pages 9 and 10 of the Third Office Action, the Examiner stated the following:

> In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, One would be motivated to do so to allow streaming video.

II(b). Appellants' Reply

Contrary to the Examiner's assertion, Appellants did not previously argue that a motivation to combine Scheussler and Allavarpu has not been established. In fact, on pages 9 and 10 of the Second Amendment, Appellants argued that "<u>even if</u> Scheussler and Allavarpu <u>were combined</u> in the manner suggested by the Examiner, the claimed invention would not result" (emphasis added). Thus, contrary to the Examiner's assertions, Appellants' argument contemplated the possibility that a proper motivation to combine Scheussler and Allavarpu has been established by the Examiner.

II(c). Examiner's Response

On pages 10 and 11 of the Third Office Action, the Examiner reproduced several paragraphs of Appellants arguments, and in the second and third full paragraphs on page 11 of the Third Office Action, the Examiner stated the following:

> In regards to point (B), examiner respectfully disagrees.
> Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Examiner uses column 2, lines 35-37 of Sche, which cites the following: "a client module generates a message including the identification number, and sends the message over the communication medium (i.e. there was no queuing or "ordering" to send the message, "ordering is not required" to send the message over the communication medium) to reject claims 4 and 13.

II(c). Appellants' Reply

Consistent with the Examiner's other two "responses" reproduced above, the Examiner does not actually directly address the substance of Appellants' arguments. Instead, the first sentence of the second paragraph immediately reproduced above is a general assertion that Appellants' arguments do not comply with 37 C.F.R. § 1.111(b), and in the second sentence, the Examiner essentially repeats, almost word-for-word, the statement of the rejection found in the last full paragraph on page 3 of the Third Office Action regarding claims 1 and 10 and found in the second full paragraph on page 6 of the Second Office Action regarding claims 4 and 13.

Appellants disagree that with the Examiner's assertion that Appellants have failed to comply with 37 C.F.R. § 1.111(b), which states, in part, "[t]he reply ... must be reduced to a writing that specifically points out the supposed errors in the examiner's action and must reply to every ground of objection and rejection in the prior Office Action." As evident from the above-reproduced, previously-presented arguments, Appellants argued that the Examiner failed to establish that column 2, lines 35-37 of Scheussler teaches the claimed "predetermined value of the marker indicates that order is not required." Thus, Appellants have pointed out errors in the Examiner's Office Action.

Another requirement of 37 C.F.R. § 1.111(b) is that "[t]he reply must present arguments point out the specific distinctions believed to render the claims ... patentable over any applied references." As also reproduced above, Appellants have argued that neither Scheussler nor Allavarpu teach or suggest that "a predetermined value of the marker indicates that ordering is

not required." Thus, Appellants have also pointed out the specific distinctions between the claimed invention and the applied prior art.

Thus, for the reasons stated above, even if Scheussler and Allavarpu were combined in the manner suggested by the Examiner, Appellants respectfully submit that the claimed invention, as recited in claims 1-3, 5-12, and 14-20, would not result.

Conclusion

Based upon the foregoing, Appellants respectfully submit that the Examiner's rejections under 35 U.S.C. § 103 based upon the applied prior art is not viable. Appellants, therefore, respectfully solicit the Honorable Board to reverse the Examiner's rejections under 35 U.S.C. § 103.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due under 37 C.F.R. §§ 1.17, 41.20, and in connection with the filing of this paper, including extension of time fees, to Deposit Account 09-0461, and please credit any excess fees to such deposit account.

Date: November 28, 2006   Respectfully submitted,

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VIII. CLAIMS APPENDIX

1. A method for preserving message order when parallel processing messages, comprising:

receiving messages each including a marker for identifying a message source;

responsive to receipt of a message, using the marker to identify the source of the message and determining whether it is required to preserve the message order; and

dispatching each message in accordance with its marker to one of a plurality of parallel processing threads such that processing order is preserved when required for messages processed through the plurality of parallel processing threads, wherein

a predetermined value of the marker indicates that ordering is not required.

2. The method of claim 1 wherein the step of dispatching comprises:

retaining a list of all markers of messages that are being processed in parallel;

determining whether the marker of a new message is present in the list; and

delaying initiating parallel processing of the new message until the marker is no longer in the list.

3. The method of claim 2 further comprising maintaining an ordered queue for each marker that is in the list of messages being processed, and, when message processing by one of the plurality of parallel processing threads completes for a marker, dispatching to said one of the plurality of parallel processing threads the next message in the ordered queue for said marker.

5. The method of claim 1 wherein the marker is derived from characteristics of the source of the ordered messages.

6. The method of claim 5 wherein the characteristics include at least one of:

an identifier of the user originating the message;

an identifier of a repository on which message is put;

an identifier associated with a respective input node receiving the message; and

an identifier associated with the mode of processing.

7. The method of claim 6 wherein the characteristics include:

an identifier of the user originating the message;

an identifier associated with a respective input node receiving the message; and

an identifier associated with the mode of processing.

8. The method of claim 6 wherein the characteristics include:

an identifier of the user originating the message;

an identifier of a repository on which message is put; and

an identifier associated with the mode of processing.

9. The method of claim 1 wherein the marker comprises a hash code.

10. A system for preserving message order when parallel processing messages, comprising:

means for receiving messages;

means, responsive to a marker within a received message, for identifying a source of the message and determining whether it is required to preserve the message order; and

a dispatcher for dispatching each message in accordance with its marker to one of a plurality of parallel processing threads such that processing order is preserved when required for messages processed through the plurality of parallel processing threads, wherein

a predetermined value of the marker indicates that ordering is not required.

11. The system of claim 10, wherein the dispatcher comprises:

means for accessing a list of all markers of messages that are being processed in parallel;

means for determining whether the marker of a new message is present in the list; and

means for delaying initiating parallel processing of the new message until the marker is no longer in the list.

12. The system of claim 11, further comprising an ordered queue for each marker that is in the list of messages being processed, and the dispatcher comprises means for, when message processing by one of the plurality of parallel processing threads completes for a marker, dispatching to said one of the plurality of parallel processing threads the next message in the ordered queue for said marker.

14. The system of claim 10 wherein the marker is derived from characteristics of the source of the ordered messages.

15. The system of claim 14 wherein the characteristics include at least one of:

an identifier of the user from whom the message originates;

an identifier of a respective input node receiving the message;

an identifier of a repository on which message is put; and

an identifier associated with the mode of processing.

16. The system of claim 15 wherein the characteristics include:

an identifier of the user from whom the message originates;

an identifier of a respective input node receiving the message; and

an identifier associated with the mode of processing.

17. The system of claim 15 wherein the characteristics include:

an identifier of the user from whom the message originates;

an identifier of a repository on which message is put; and

an identifier associated with the mode of processing.

18. The system of claim 10 wherein the marker comprises a hash code.

19. A computer program element comprising computer program means for performing the method of claim 1.

20.   A computer program product comprising program code recorded on a machine readable recording medium, for controlling the operation of a data processing system on which the program code executes, to perform the method of claim 1.

IX. EVIDENCE APPENDIX

No evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 of this title or of any other evidence entered by the Examiner has been relied upon by Appellants in this Appeal, and thus no evidence is attached hereto.

X. RELATED PROCEEDINGS APPENDIX

Since Appellants are unaware of any related appeals and interferences, no decision rendered by a court or the Board is attached hereto.